

# Horizon Air Hybrid-Mode Set-up Checklist

Complete the following tasks to prepare your network and Virtual SAN Ready Node for the installation of Horizon Air Hybrid-Mode. After the checklist is complete, follow the suggested workflow to deploy and start administering the service. A worksheet is included to help you collect the information required. If you require help, contact your VMware customer service representative.

For Horizon Air Hybrid-Mode on VxRail, please work with your VCE, EMC, or partner representative to complete the VxRail Appliance Pre-installation Site Checklist via the site survey.

## Assumptions

- This checklist is for the minimum configuration required for Horizon Air Hybrid-Mode - a 4-server cluster of Virtual SAN Ready Nodes. For larger cluster sizes, the quantities listed below should be scaled up appropriately
- Compatible software versions for the [Horizon Air Hybrid-Mode components](#) are used

## Set-up checklist

Physical Requirements (Assumes minimum configuration of 4-server Virtual SAN Ready Node cluster)						
<input type="checkbox"/>	Rack space to accommodate servers (E.g. 2 RU of rack space per server for R730xd)					
<input type="checkbox"/>	Required power connections per server (E.g. 2 x 220v power connections per server for R730xd)					
<input type="checkbox"/>	2 x 10GBe SFP+ switch ports and cabling per server					
<input type="checkbox"/>	1 x 1Gbe switch ports and cabling for Management out of band management per physical server (optional)					
Virtual SAN Cluster Configuration Requirements						
<input type="checkbox"/>	Dedicated vCenter Server Appliance deployed on server 1					
<input type="checkbox"/>	Dedicated Virtual SAN datastore (included in the hardware)					
<input type="checkbox"/>	Ensure ESXi servers are registered with vCenter via FQDN "DNS name" (not IP address) and other instructions as described in the <a href="#">Horizon Air Hybrid-Mode Installation Guide</a>					
Networking Requirements						
5 x VLANs						
<input type="checkbox"/>	VLANs A and B with outbound network internet connectivity					
<input type="checkbox"/>	VLAN C					
<input type="checkbox"/>	VLAN D with IGMP snooping and IGMP queries enabled for virtual SAN. For reference, see: <a href="http://www.vmware.com/files/pdf/products/vsan/VMware-Virtual-SAN-Network-Design-Guide.pdf">http://www.vmware.com/files/pdf/products/vsan/VMware-Virtual-SAN-Network-Design-Guide.pdf</a>					
<input type="checkbox"/>	VLAN E for vMotion					
<input type="checkbox"/>	VLAN F for Upgrades					
<input type="checkbox"/>	VLAN	TYPE	NETWORK	PREFIX	ROUTER	USE
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	A	routed	site specific	/27 min	site specific	management,ESXi/vCenter/Horizon Air Node appliance
	B	routed	site specific	*	site specific	desktops,tenant appliances
	C	private	169.254.0.1	/24	none	Horizon Air Node backbone
	D	private	private (1)	/24	none	Virtual SAN
	E	private	private (2)	/24	none	vMotion
	F	Private	private	/24	none	Upgrade
<i>*This network needs to be large enough to provide a DHCP scope for all of the desktops to be provisioned, along with three addresses for infrastructure appliances</i>						

Physical switch port configuration	
<input type="checkbox"/>	10GB ports on the physical switch in trunk mode with all above VLANs
<input type="checkbox"/>	10GB ports on the physical switch must not have LACP enabled
<input type="checkbox"/>	1GBe ports on the physical switch for out-of-band NICs may require access mode depending on IPMI capability
IP Allocation	
<input type="checkbox"/>	VLAN A: • 4 x addresses for server out-of-band IPMI interfaces - Could be any VLAN/IP's used for out of band management (optional)
<input type="checkbox"/>	• 4 addresses for ESXi Servers (Hosts)
<input type="checkbox"/>	• 1 x address for Horizon Air Link
<input type="checkbox"/>	• 1 x address for vCenter Server Appliance
<input type="checkbox"/>	• 10 x contiguous addresses for Horizon Air Hybrid-Mode management appliances
<input type="checkbox"/>	VLAN B - Must be large enough for all desktop IP addresses plus three management appliances (suggest /24 or /23): • 3x contiguous addresses for management appliances with the following typical configuration - Tenant Appliance 01 - .2 - Tenant Appliance 02 - .3 - Tenant Virtual IP - .4
<input type="checkbox"/>	• DHCP scope large enough for all desktops to obtain IP addresses
<input type="checkbox"/>	VLAN C - link local addresses are automatically assigned by management appliances
<input type="checkbox"/>	VLAN D - 4 x IP addresses for Virtual SAN interfaces
<input type="checkbox"/>	VLAN E - 4 x IP addresses for vMotion interfaces
Active Directory (AD)	
<input type="checkbox"/>	• Add an account which can be used by the system to create computer objects, typically a new account ("domain join user account") For reference, see <a href="https://support.microsoft.com/en-us/kb/251335">https://support.microsoft.com/en-us/kb/251335</a>
<input type="checkbox"/>	Add AD domain bind account (a standard user with read access) that has permission to read objects in the AD
<input type="checkbox"/>	2 types of AD groups are required • Administrators - Administrators group of the appliance, typically linked to a Security group in AD • Users - Security groups or groups in AD, the users of which will have access to desktops in Horizon Air Hybrid-Mode
External Windows-based SMB File share	
<input type="checkbox"/>	Highly available Windows-based SMB file share, with enough capacity for desktop golden images and AppStacks. For reference, see: <a href="#">Horizon Air Hybrid-Mode Administration Guide</a> • Read permissions for Domain bind account user • Optionally R/W permissions for other users to add / update images/AppStacks
Site DNS	
<input type="checkbox"/>	DNS server(s) that can perform recursive (reverse) queries (i.e. myvmware.com must resolve)
<input type="checkbox"/>	Web proxy (if needed) to access <a href="https://cloud.horizon.vmware.com">https://cloud.horizon.vmware.com</a> from both, Mgmt and Desktop Network
<input type="checkbox"/>	DNS server(s) with A and PTR records for all static IP addresses used for non-private systems: i. ESXi server 1 management      iii. ESXi server 3 management      v. Horizon Air Link ii. ESXi server 2 management      iv. ESXi server 4 management      vi. vCenter Server Appliance
<input type="checkbox"/>	KMS server for OS licensing of all desktops
<input type="checkbox"/>	NTP server(s) – ensure ESX host NTP is setup correctly including endpoint management device

Ports and internal firewalls (on your firewalls between internal networks)	
<input type="checkbox"/>	LDAP port 389 or LDAPS port 636 allowed internally
<input type="checkbox"/>	DNS port 53
<input type="checkbox"/>	DHCP ports 67/68 and DHCP forwarder configured on switch
<input type="checkbox"/>	Desktop protocols: <ul style="list-style-type: none"> <li>• TCP/UDP 4172 for PCoIP desktop access internal and external</li> <li>• TCP/UDP 443/8443 for Blast Extreme access internal and external</li> <li>• TCP 32111 for USB redirection</li> </ul>
<input type="checkbox"/>	Outbound port 443 for Horizon Air Node Manager Appliance1 &2
<input type="checkbox"/>	Access Point requirements (optional - for external access) – For reference, see <a href="#">Deploying and Configuring Access Point</a> . Additional ports may need to be enabled for external access

## 2. Horizon Air Hybrid-Mode Deployment Workflow

After completing the above checklist, follow the suggested workflow below to deploy and start administering the service.

- i. Install and configure the Virtual SAN Ready Node ([Horizon Air Hybrid-Mode Installation Guide](#))
- ii. Pair the Virtual SAN Ready Node with the cloud ([Horizon Air Hybrid-Mode Installation Guide](#))
- iii. Perform a domain join/bind (“[Register Active Directory](#)” in [Horizon Air Hybrid-Mode Administration Guide](#))
- iv. [Optional] Upload SSL certificates to ensure end users have a trusted connection to their environment (“[Upload Certificates](#),” in [Horizon Air Hybrid-Mode Administration Guide](#))
- v. Create a gold / master desktop image (“[Create a Desktop Image](#)” in [Horizon Air Hybrid-Mode Administration Guide](#))
  - It is recommended that you build a brand new Windows Desktop image and use the VMware OS Optimization tool to optimize your desktop image to get the best user experience and login times. (<https://www.vmware.com/files/pdf/VMware-View-OptimizationGuideWindows7-EN.pdf>)
- vi. Capture App Stacks, a collection of applications on a VMDK or VHD used to deploy applications to end users. (“[Managing Applications for Deployment with AppCapture](#),” using the App Capture tool as described in [Horizon Air Hybrid-Mode Administration Guide](#))
- vii. Create a desktop service and assignments (“[Desktop Assignment](#)” in [Horizon Air Hybrid-Mode Administration Guide](#))
- viii. Create application service and assignments (“[App Assignment](#)” in [Horizon Air Hybrid-Mode Administration Guide](#))
- ix. Launch desktops and applications

## 4. References

- [Virtual SAN Ready node documentation](#)
- [Horizon Air Hybrid-Mode Installation Guide](#)
- [Horizon Air Hybrid-Mode Administration Guide](#)
- [Deploying and Configuring Access Point](#)
- [Troubleshooting App Volumes](#)
- [Horizon Air Hybrid-Mode Global Support](#)



# Horizon Air Hybrid-Mode Set-up Worksheet

**Network:** (Assumes minimum configuration of 4-server Virtual SAN Ready Node cluster for Horizon Air Node. Scale quantity up for larger clusters)  
If you require help, contact your VMware customer service representative.

VLAN	VLAN ID	Network IP RANGE	Subnet	Gateway
Management		10 Contiguous IPs		
vMotion		4 IPs		
vSAN		4 IPs		
Linklocal		169.254.0.1/24 169.254.0.1-169.254.0.254		NA
Desktop				

## DNS & IP Information:

Hybrid Mode	Virtual SAN Server Hostname	
vSphere server 1	Example: vsphere-01	
IPMI host 1		
vSphere server 2	Example: vsphere-02	
IPMI host 2		
vSphere server 3	Example: vsphere-03	
IPMI host 3		
vSphere server 4	Example: vsphere-04	
IPMI host 4		
Node Use	VM Hostname	IP Address
vCenter	Example: hahmvc01	
Horizon Air Link		
Management VMs	10 Contiguous IPs in Management Network	
Desktop Management VMs	First 3 Contiguous IPs in Desktop Network (Internet Required)	

## AD Information

	Hostname	IP Address
Primary Domain Controller		
Secondary Domain Controller	Optional	
Primary DNS Server		
Secondary DNS Server	Optional	
DHCP Server		
KMS Server		
NTP Server		
	Values	Sample/Notes
AD NETBIOS Name	Name of AD Domain	TENANT
Domain Suffix		tenant.com
AD Protocol	ldap	ldap or ldaps
AD Protocol Port	389	389 or 636
Domain Bind Service Account	Can be a standard domain user.	
AD join account	Can be a standard domain user with the ability to join unlimited computer objects.	
Horizon Air Hybrid-Mode Admin Grp	A group of people who can administer the platform	
Horizon Air Hybrid-Mode User Grp	AD Group(s) allowed to access desktops	